ArcGIS Data Reviewer
Planning and Deploying Data Quality Services

Edwin Waite & Shankar Chandrasekaran
A few examples of why data validation matters
Leaning Tower of Pisa
Mars Climate Orbiter (1999)
Garbage in Garbage Out (GIGO)

Buildings

Water Bodies

Roads
Garbage in Quality Out

- Buildings
- Water Bodies
- Roads
What is ArcGIS Data Reviewer for Server?

- System to support data quality management for ArcGIS
- Automates quality control process
- Monitor and Measure data quality
Enterprise Quality Management System

GIS Data

Data Reviewer

Server
Benefits of Data Reviewer for Server

- Provides accurate data for your applications
- Measure and report data quality
- Eliminate costs associated with poor data quality
Monitoring your data with validation
Automated Validation

Different Type of Issues in GIS Data

- Attribution
- Feature Integrity
- Metadata
- Spatial Relationships
Automated Validation

- *Checks* validate data based on conditions you define.
- Results are written to the Reviewer workspace.
Automated Validation

- Over 40 rules out of the box
- Ability to extend validation with custom rules
- Rules are authored using ArcGIS Data Reviewer for Desktop
Automated validation

- Group checks into batch jobs
Questions ?
Analyzing Validation Results
Dashboard
- Provides transparency to stakeholders on data quality
- Ability for stakeholders to make informed and accurate decisions
- Interactively summarize results based on different perspectives
- Summaries are derived from results
Summarize data quality
Dashboard - Perspectives

- How many issues do I have by feature class?
- How severe are the issues with my data?
- How many types of issues do I have in my data?
- How many issues have been reviewed and fixed?
- What are the issues on a geographic extent?
• Results are records that are stored in Reviewer workspace
• Contains information about a feature or a row which failed QC standard

Query Results
- Apply filters
- Sort/Page
Results

- Spatial and non-spatial
- Attributes describe check, problem, and validation information
- Object ID provides link back to feature that failed validation
Questions ?
Visual Quality Control
Visual Review Process

Reviewer Service
Write Results

Reviewer

Geodatabase

ArcGIS Server

Editor
Benefits of Visual Review

• Get feedback from Subject Matter Experts (SME)

• Identify missing or incomplete data

• Track issues reported
Visual Quality Control

Demo
Questions ?
Deploying Data Quality Services
Deploying Data Reviewer Services

Single machine deployment

ArcGIS Server

Reviewer Workspace

Server

Data Workspace

Client

Desktop

Web

Device
Deploying Data Reviewer Services
Single machine Deployment

ArcGIS Server
Single Machine

Validate
GP Service

Validate
GP Service

Inspect and Analyze
Map Service

Inspect and Analyze
Map Service

Inspect and Analyze
Map Service
Deploying Data Reviewer Services
Multi-machine deployment

Desktop  Web  Device

Client

Web Adaptor

Reviewer Workspace  Servers  Data Workspace

ArcGIS Servers
Deploying Data Reviewer Services
Multi-machine deployment

ArcGIS Servers

Validate
GP Service

Inspect and Analyze
Map Service

Validate
GP Service

Inspect and Analyze
Map Service

Validate
GP Service

Inspect and Analyze
Map Service
Deploying Data Reviewer Services
Amazon Elastic Cloud Deployment
Deploying Data Reviewer Services
Amazon Elastic Cloud Deployment

AGS - Amazon EC

Validate
GP Service
Inspect and Analyze
Map Service

AGS - Amazon EC

Validate
GP Service
Inspect and Analyze
Map Service
Data Reviewer Server
Out of the Box

- **Server components**
  - Execute Batch Job GP Service
  - Reviewer Service
  - REST API

- **Web components**
  - Client API Reference (JavaScript & Flex)
  - Starter Applications (Batch Validation Manager)
  - Widgets (Flex & JavaScript)
Data Reviewer Platform

• ArcGIS Data Reviewer for Desktop
  - Define and author Quality Control Standards
  - Configure Reviewer Workspace to store results

• ArcGIS Data Reviewer for Server
  - Schedule and run automated validations
  - Analyze result stored in Reviewer workspace
  - Submit SME feedback for Reviewer workspace for visual review

• Client API’s
  - Develop applications to access data quality services
Widgets and Starter Apps - Demo
Resources

• Product page
  - www.esri.com/dataReviewer

• Resource Center

• Training
  - www.esri.com/training

• Questions & comments
  - dataReviewer@esri.com
Resource Center – Data Reviewer

- Gallery
  - Apps
  - Templates
  - Tutorials
- API Documentation
- Live Samples
<table>
<thead>
<tr>
<th>Day and Description</th>
<th>Type</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td><strong>Tuesday July 15</strong></td>
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<tr>
<td>ArcGIS Data Reviewer: An Introduction</td>
<td>Technical Workshop</td>
<td>8:30 – 9:45am</td>
<td>Room 14A</td>
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<tr>
<td>ArcGIS Data Reviewer: Extending the Validation Framework</td>
<td>Demo Theater</td>
<td>9:30 – 10:00am</td>
<td>Geodata Mgmt Theater</td>
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<tr>
<td>ArcGIS Data Reviewer: Leveraging Geoprocessing for Data Validation</td>
<td>Demo Theater</td>
<td>10:30 – 11:00am</td>
<td>Geodata Mgmt Theater</td>
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<td>ArcGIS Data Reviewer: Assessing Positional Accuracy</td>
<td>Demo Theater</td>
<td>1:00 – 1:30pm</td>
<td>Geodata Mgmt Theater</td>
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<td>ArcGIS Data Reviewer: Plans for Quality Assessment of Raster Datasets</td>
<td>Demo Theater</td>
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<tr>
<td><strong>Wednesday July 16</strong></td>
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<td>ArcGIS Data Reviewer: An Introduction</td>
<td>Technical Workshop</td>
<td>8:30 – 9:45am</td>
<td>Room 14A</td>
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<td>ArcGIS Data Reviewer: Integrating ArcGIS Data Reviewer and ArcGIS Workflow Manager to Automate Quality Control Workflows</td>
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<td>Geodata Mgmt Theater</td>
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<td>ArcGIS Data Reviewer: Special Interest Group Meeting</td>
<td>SIG</td>
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<td>Room 15B</td>
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<td>ArcGIS Data Reviewer: Planning and Deploying Data Quality Services</td>
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<td>3:15 – 4:30pm</td>
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<td><strong>Thursday July 17</strong></td>
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<td>ArcGIS Data Reviewer: Integrating Data Validation Capabilities Into Web Applications</td>
<td>Demo Theater</td>
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<td>Web &amp; Server Theater</td>
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<td>ArcGIS Data Reviewer: Implementing Data Quality Reporting in Web</td>
<td>Demo Theater</td>
<td>10:30 – 11:00am</td>
<td>Web &amp; Server Theater</td>
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Questions ?
Thank you...

• Please fill out the session survey:

    **Offering ID:**  1313

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    Paper – pick up and put in drop box